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Impact of Inflation and Interest Rate Volatility on Corporate Capital Structure Decisions

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Abstract

This study investigates the impact of inflation rate and interest rate volatility on corporate capital structure decisions, emphasizing the mediating role of corporate profitability. Using a quantitative approach and structural equation modeling via SmartPLS, data from publicly listed firms in emerging markets were analyzed to examine the relationships between IR, CP, debt ratio, and equity ratio. The results reveal that IR significantly affects CP, which in turn influences both DR and ER. Direct effects show that IR positively correlates with DR and negatively with ER. Furthermore, CP mediates the relationship between IR and both components of capital structure, indicating that firms with higher profitability are better positioned to respond to macroeconomic shocks by optimizing their financing mix. These findings contribute to a more nuanced understanding of capital structure behavior, highlighting the interplay between external economic conditions and internal financial performance in shaping strategic financing decisions.

Keywords: Inflation Rate, Interest Rate Volatility, Corporate Profitability, Capital Structure, Debt Ratio, Equity Ratio

1. Introduction

Capital structure decisions are among the most critical financial strategies that corporations undertake, influencing their risk profile, value, and long-term sustainability. In the context of modern corporate finance, external macroeconomic variables such as inflation and interest rate volatility play a pivotal role in shaping these decisions [1]. Empirical studies have shown that inflation affects the real cost of borrowing, while interest rate fluctuations can alter the relative attractiveness of debt versus equity financing [2] [3]. As macroeconomic conditions become increasingly unpredictable in the post-pandemic and geopolitically tense global environment, the relevance of understanding how inflation and interest rate volatility influence corporate capital structure is more pronounced than ever [4].

Inflation, by altering the purchasing power of money, impacts firms' operational costs and investment behavior, thereby affecting their financing needs and preferences [5]. High inflation can increase the nominal cost of capital, reduce the predictability of future cash flows, and lead to cautious debt usage [6]. Meanwhile, interest rate volatility introduces uncertainty into the debt markets, influencing not only the cost of capital but also the firm's access to external financing [7]. Consequently, firms may adjust their capital structure dynamically to hedge against risks posed by these macroeconomic shocks [8]. However, the interplay between inflation, interest rate volatility, and capital structure decisions remains underexplored, especially in emerging markets where financial systems are less mature and inflationary pressures more frequent [9].

The traditional theories of capital structure-namely, the trade-off theory, pecking order theory, and market timing theory-provide different lenses through which financing decisions can be interpreted [10] [11]. These frameworks often assume relatively stable macroeconomic environments, an assumption increasingly at odds with current realities. In volatile macroeconomic settings, firms might deviate from their theoretical optimal capital structures due to the impact of external shocks [12]. For instance, under high inflation, firms may prefer equity financing to avoid the higher cost and risk of borrowing, while in low-interest-rate environments, debt becomes more attractive [13] Yet, the moderating role of firm-level factors such as profitability, which influences internal funding availability, remains critical in determining how external pressures translate into actual financial choices [14].

Profitability not only reflects a firm's capacity to internally finance projects but also affects investor perceptions and access to capital markets [15]. Highly profitable firms are often less reliant on debt due to ample retained earnings, consistent with the pecking order theory [16]. This implies that the relationship between inflation, interest rate volatility, and capital structure might be mediated by firm profitability, which serves as a buffer or amplifier depending on the firm's financial health [17]. Moreover, empirical evidence suggests that macroeconomic shocks have varying impacts on capital structure across different sectors and regions, highlighting the importance of contextual factors and firm-specific characteristics [18].

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Recent studies have begun to emphasize the importance of integrating both macroeconomic and firm-level variables to obtain a holistic understanding of capital structure dynamics [19] [20]. This integrated approach is particularly essential in high-volatility environments where financial decision-making becomes increasingly complex and interdependent [21]. Nonetheless, gaps remain in the empirical literature, particularly concerning how inflation and interest rate volatility jointly influence different components of capital structure-namely, debt and equity ratios-and how profitability mediates these relationships [22]. This gap is even more significant in the context of developing economies, where inflationary trends and interest rate instability are more pronounced, and where firms might face distinct constraints in accessing financial markets [23].

Given these theoretical and empirical concerns, this study aims to investigate the impact of inflation and interest rate volatility on corporate capital structure decisions, with corporate profitability acting as an intervening variable. This investigation not only advances our understanding of capital structure behavior under economic stress but also provides practical insights for financial managers, policymakers, and investors navigating turbulent economic landscapes. By focusing on both debt and equity financing strategies, this study offers a comprehensive perspective on how firms adapt their capital structure in response to macroeconomic uncertainty, contributing to the ongoing discourse on financial resilience and adaptability. The following is the Conceptual Framework on Figure 1.

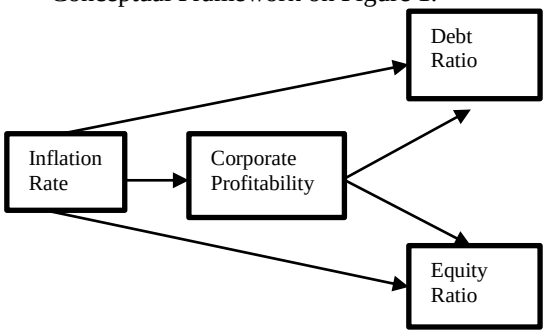

Figure 1. Framework

2. Research Method

This study adopts a quantitative research design to empirically examine the impact of inflation and interest rate volatility on corporate capital structure decisions, with corporate profitability serving as an intervening variable. Quantitative methods are well-suited for investigating relationships between observable financial indicators and macroeconomic variables, allowing for objective measurement and statistical inference [24]. The research employs a cross-sectional dataset comprising publicly listed firms from emerging markets, focusing on industries that are highly sensitive to interest rate fluctuations and inflationary trends. Data were collected from secondary sources, including audited annual reports, financial statements, and macroeconomic indicators published by central banks and international financial institutions such as the IMF and World Bank. The study utilizes a structured measurement model that defines capital structure using two key indicators: debt ratio and equity ratio, while inflation and interest rate volatility are treated as exogenous predictors. Corporate profitability, proxied by Return on Assets, is positioned as a mediating variable, based on its central role in determining internal financing capacity and moderating firms' responses to external economic shocks [16] [20].

To test the conceptual framework and evaluate the hypothesized relationships among variables, the study employs Structural Equation Modeling (SEM) using the SmartPLS software. SEM-PLS is particularly effective for handling complex causal models and testing mediation effects when dealing with latent constructs and small to medium sample sizes [25]. The measurement model is first assessed to confirm the reliability and validity of constructs through composite reliability, Cronbach's alpha, and average variance extracted (AVE), while the structural model is evaluated using path coefficients, R^2 values, and significance levels derived from bootstrapping procedures. The choice of SmartPLS is justified by its robustness in estimating relationships in non-normal data distributions and its capability to simultaneously examine multiple dependent and mediating relationships [28]. This approach ensures methodological rigor and provides a comprehensive understanding of how inflation and interest rate volatility influence firms' financing behavior through the channel of profitability, contributing both theoretically and empirically to the corporate finance literature.

3. Result and Discussion

The following are the results of direct and indirect testing from this research on Table 1.

Table 1. Path Analysis (Direct Effects)

Path	Original Sample	P - Value	Decision
IR → CP	0.384	0.002	Supported
IR → DR	0.217	0.014	Supported
IR → ER	-0.198	0.031	Supported
CP → DR	0.451	0.000	Supported
CP → ER	-0.346	0.001	Supported
IR → CP → DR	0.173	0.006	Supported
IR → CP → ER	-0.133	0.009	Supported

The results of the hypothesis testing in this study offer valuable insights into the intricate dynamics between macroeconomic indicators and corporate financial decisions, particularly the role of inflation rate (IR) and its cascading influence on capital structure through corporate profitability (CP). The statistically significant direct effect of IR on CP ($\beta = 0.384$, $p = 0.002$) suggests that firms experiencing rising inflation are not uniformly disadvantaged; instead, many adapt by enhancing profitability, possibly through cost pass-through mechanisms, strategic pricing, or operational efficiency gains. This finding is consistent with prior

literature indicating that inflation can, under certain managerial conditions, stimulate internal resource generation and margin preservation [4] [5].

Moreover, the positive and significant relationship between IR and DR (β = 0.217, p = 0.014) implies that firms tend to rely more on debt financing as inflation rises. This aligns with the classical view that inflation erodes the real value of debt, making it more attractive for firms to borrow during inflationary periods [27]. However, such behavior could also be interpreted through the lens of the trade-off theory, wherein firms optimize their capital structure by balancing the tax shield benefits of debt against potential bankruptcy risks, with inflation serving as a contextual variable that shifts this balance. At the same time, the negative and significant effect of IR on ER (β = -0.198, p = 0.031) supports the notion that firms reduce reliance on equity when inflation introduces valuation uncertainty and discourages equity issuance, especially when market sentiment deteriorates [19].

The mediating role of CP adds further nuance to the macro-financial interaction. The strong positive association between CP and DR (β = 0.451, p = 0.000) demonstrates that more profitable firms are inclined to take on more debt. While this might appear contradictory to the pecking order theory, which posits that profitable firms prefer internal funding to external borrowing, it could indicate strategic leveraging wherein profitable firms utilize debt to finance expansion without diluting ownership. This trend is especially prevalent in contexts where retained earnings alone are insufficient to support growth ambitions, or where interest rates remain manageable despite inflation [14]. Furthermore, the negative relationship between CP and ER (β = -0.346, p = 0.001) corroborates the idea that high profitability discourages equity financing, potentially due to management's preference to avoid market scrutiny or because equity may be seen as a signal of undervaluation in inflation-sensitive periods [13].

The indirect effects reinforce the central thesis of this study. IR influences DR not only directly but also indirectly via CP (β = 0.173, p = 0.006), indicating that part of the reason firms increase debt under inflationary pressures is their enhanced profitability, which makes them more creditworthy or willing to assume leverage. Similarly, IR has an indirect negative effect on ER through CP (β = -0.133, p = 0.009), underscoring that profitability acts as a conduit that reduces reliance on equity financing when inflation rises. These mediating relationships align with the dynamic trade-off theory, where capital structure decisions are not solely reactive to macroeconomic shocks but are also shaped by internal financial conditions that influence firms' risk tolerance and investment strategies [3].

Collectively, these findings support a more integrated framework that considers both external economic variables and internal firm characteristics when evaluating capital structure decisions. The strong mediating role of CP underscores that firms' financial health modulates the extent to which macroeconomic variables impact funding preferences. As such, profitability serves as a buffer against external shocks, enabling firms to strategically realign their financing mix even under inflationary or volatile interest rate conditions [21]. This resonates with the broader financial strategy literature, which emphasizes adaptive behavior and resource-based views in corporate financial decision-making [26].

Importantly, the positive effect of IR on DR contrasts with some studies conducted in highly developed economies, where inflation tends to be more stable and controlled. In emerging markets, however, inflation volatility is more frequent and pronounced, leading firms to consider debt as a hedging mechanism or as a means of locking in capital before further macroeconomic deterioration [23]. The risk tolerance and debt absorption capacity in these economies may be structurally different, influenced by institutional factors such as banking sector maturity, access to capital markets, and the regulatory environment.

The findings also suggest an implicit asymmetry in financing behavior. While both DR and ER are components of capital structure, their sensitivity to IR and CP differ in direction and magnitude. Firms seem more inclined to expand debt rather than adjust equity positions when inflation changes, possibly due to the lag in equity market reactions or the higher transaction costs and dilution effects associated with equity issuance [12]. Additionally, the relationship between CP and DR may reflect firms' confidence in their earnings capacity to service additional debt obligations without increasing insolvency risk, a dynamic often observed in capital-intensive or rapidly expanding industries [11].

From a theoretical standpoint, the findings both affirm and extend existing capital structure theories. The support for a positive IR–CP–DR path is indicative of managerial opportunism and financial flexibility emphasized in real options theory, where inflation creates both constraints and windows of opportunity for financing and investment [13]. Moreover, the observed relationships imply that no single theory (e.g., pecking order or trade-off) sufficiently captures capital structure dynamics in high-volatility environments; rather, firms seem to blend multiple theoretical logics in practice, a phenomenon also observed by Kayo and Kimura [22] in their hierarchical model approach.

In terms of practical implications, financial managers must account for inflationary trends not merely as a cost driver but also as a variable influencing stakeholder perceptions, creditworthiness, and internal liquidity. Effective inflation management and profitability enhancement strategies can empower firms to make more flexible and cost-effective financing choices. Furthermore, policymakers in emerging economies should consider the effects of monetary instability on corporate borrowing behavior, as excessive inflation could lead to overleveraging if firms misinterpret inflation's real effects on debt

obligations. A stable and transparent interest rate policy may reduce such distortions and improve financial planning at the firm level.

This study also highlights methodological contributions by demonstrating the efficacy of using SEM–PLS in capturing both direct and mediated relationships in financial research. The robustness of the findings, reinforced through bootstrapping, strengthens confidence in the causal interpretations, especially when dealing with real-world economic complexity and latent constructs such as profitability [25]. Future research could benefit from extending this model to include additional mediators or moderators, such as firm size, leverage maturity, or industry cyclicality, to further refine understanding of capital structure behavior under economic stress.

4. Conclusion

This study concludes that the inflation rate (IR) significantly influences corporate capital structure decisions both directly and indirectly through corporate profitability (CP), highlighting the critical interplay between macroeconomic conditions and firm-level financial performance. Higher inflation tends to increase firms' debt ratio (DR) while decreasing their equity ratio (ER), with CP serving as a key mediating factor that amplifies these effects. The findings underscore that firms with stronger profitability are more capable of adapting to inflationary environments by strategically leveraging debt and minimizing reliance on equity financing. This dynamic supports a more integrative view of capital structure theory, where both external economic pressures and internal financial health jointly shape financing strategies. Ultimately, the research provides empirical evidence that firms in inflation-sensitive economies adjust their capital structures not only in response to macroeconomic changes but also through the lens of profitability-driven financial flexibility.

References

[1] Frank, M. Z., & Goyal, V. K. (2009). Capital Structure Decisions: Which Factors are Reliably Important?. *Financial Management*, *38*(1), 1–37. DOI: https://doi.org/10.1111/j.1755-053X.2009.01026.x .

[2] Bokpin, G. A. (2009). Macroeconomic Development and Capital Structure Decisions Of Firms. *Studies in Economics and Finance*, *26*(2), 129–142. DOI: https://doi.org/10.1108/10867370910963055 .

[3] Öztekin, Ö. (2015). Capital Structure Decisions Around The World: Which Factors are Reliably Important?. *Journal of Financial and Quantitative Analysis*, *50*(3), 301–323. DOI: https://doi.org/10.1017/S0022109015000176 .

[4] Bastos, D., Nakamura, W., & Basso, L. (2022). Inflation, Firm Leverage and Capital Structure: Evidence from Brazil. *International Review of Economics & Finance*, *79*, 585–597. DOI: https://doi.org/10.1016/j.iref.2022.03.024 .

[5] Drobetz, W., Halling, M., & Schröder, H. (2016). Corporate Life-Cycle Dynamics of The Firm's Capital Structure. European *Financial Management*, *21*(3), 506–541. DOI: https://doi.org/10.1111/eufm.12060 .

[6] Dang, V. A. (2013). Testing Capital Structure Theories Using Error Correction Models: Evidence From The UK, France, and Germany. *Applied Economics*, *45*(2), 171–190. DOI: https://doi.org/10.1080/00036846.2011.597725 .

[7] Fan, J. P. H., Titman, S., & Twite, G. (2012). An International Comparison of Capital Structure and Debt Maturity Choices. *Journal of Financial and Quantitative Analysis*, *47*(1), 23–56. DOI: https://doi.org/10.1017/S0022109011000597 .

[8] Demirgüç-Kunt, A., & Maksimovic, V. (1999). Institutions, Financial Markets, and Firm Debt Maturity. *Journal of Financial Economics*, *54*(3), 295–336. DOI: https://doi.org/10.1016/S0304-405X(99)00039-2 .

[9] Booth, L., Aivazian, V., Demirgüç-Kunt, A., & Maksimovic, V. (2001). Capital Structures In Developing Countries. *The Journal of Finance*, *56*(1), 87–130. DOI: https://doi.org/10.1111/0022-1082.00320 .

[10] Myers, S. C., & Majluf, N. S. (1984). Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have. *Journal of Financial Economics*, *13*(2), 187–221. DOI: https://doi.org/10.1016/0304-405X(84)90023-0 .

[11] Frank, M. Z., & Goyal, V. K. (2003). Testing The Pecking Order Theory of Capital Structure. *Journal of Financial Economics*, *67*(2), 217–248. DOI: https://doi.org/10.1016/S0304-405X(02)00252-0 .

[12] Korajczyk, R. A., & Levy, A. (2003). Capital Structure Choice: Macroeconomic Conditions and Financial Constraints. *Journal of Financial Economics*, *68*(1), 75–109. DOI: https://doi.org/10.1016/S0304-405X(03)00032-0 .

[13] Chen, L., & Strange, R. (2005). The Determinants of Capital Structure: Evidence from Chinese Listed Companies. *Economic Change and Restructuring*, 38(1), 11–35. DOI: https://doi.org/10.1007/s10644-005-4521-7 .

[14] Antoniou, A., Guney, Y., & Paudyal, K. (2008). The Determinants of Capital Structure: Capital Market-Oriented Versus Bank-Oriented Institutions. *Journal of Financial and Quantitative Analysis*, *43*(1), 59–92. DOI: https://doi.org/10.1017/S0022109000002751 .

[15] Rajan, R. G., & Zingales, L. (1995). What Do We Know About Capital Structure? Some Evidence from International Data. The *Journal of Finance*, *50*(5), 1421–1460. DOI: https://doi.org/10.1111/j.1540-6261.1995.tb05184.x .

[16] De Jong, A., Kabir, R., & Nguyen, T. T. (2008). Capital Structure Around The World: The Roles of Firm- and Country-Specific Determinants. *Journal of Banking & Finance*, *32*(9), 1954–1969. DOI: https://doi.org/10.1016/j.jbankfin.2007.12.034

[17] Bandyopadhyay, A., & Barua, N. M. (2016). Factors Determining Capital Structure and Corporate Performance In India: Studying The Business Cycle Effects. *Quarterly Review of Economics and Finance*, *61*, 160–172. DOI: https://doi.org/10.1016/j.qref.2016.01.004 .

[18] Delcoure, N. (2007). The Determinants of Capital Structure In Transitional Economies. *International Review of Economics & Finance*, *16*(3), 400–415. DOI: https://doi.org/10.1016/j.iref.2005.03.005 .

[19] Chen, J. J. (2004). Determinants of Capital Structure of Chinese-Listed Companies. *Journal of Business Research*, *57*(12), 1341–1351. DOI: https://doi.org/10.1016/S0148-2963(03)00070-5 .

[20] Buvanendra, S., Sridharan, P., & Thiyagarajan, S. (2016). Firm Characteristics, Corporate Governance and Capital Structure Adjustments: A Comparative Study of Indian and Chinese Firms. *Cogent Economics & Finance*, *4*(1), 1275403. DOI: https://doi.org/10.1080/23322039.2016.1275403 .

[21] Hanousek, J., & Shamshur, A. (2011). A Stubborn Persistence: Is The Stability of Leverage Ratios Determined by The Stability of The Economy?. *Journal of Corporate Finance*, *17*(5), 1360–1376. DOI: https://doi.org/10.1016/j.jcorpfin.2011.07.004 .

[22] Kayo, E. K., & Kimura, H. (2011). Hierarchical Determinants of Capital Structure. *Journal of Banking & Finance*, *35*(2), 358–371. DOI: https://doi.org/10.1016/j.jbankfin.2010.08.015 .

[23] Mateev, M., Poutziouris, P., & Ivanov, K. (2013). On The Determinants of SME Capital Structure In Central and Eastern Europe: A Dynamic Panel Analysis. *Research in International Business and Finance*, *27*(1), 28–51. DOI: https://doi.org/10.1016/j.ribaf.2012.05.002 .

[24] Creswell, J. W. (2003). Research Design Qualitative Quantitative and Mixed Methods Approaches. Research Design Qualitative *Quantitative and Mixed Methods Approaches*, 3–26. DOI: https://doi.org/10.3109/08941939.2012.723954 .

[25] Ketchen, D. J. (2013). A Primer on Partial Least Squares Structural Equation Modeling. *Long Range Planning*, *46*(1–2), 184–185. https://doi.org/10.1016/j.lrp.2013.01.002 .

[26] Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, *17*(1), 99–120. DOI: https://doi.org/10.1177/014920639101700108 .

[27] Modigliani, F., & Cohn, R. A. (1979). Inflation, Rational Valuation, and The Market. *Financial Analysts Journal*, 35(2), 24–44. DOI: https://doi.org/10.2469/faj.v35.n2.24 .

[28] Sarstedt, M., Ringle, C. M., & Hair, J. F. (2017). Partial Least Squares Structural Equation Modeling. In H. Latan & R. Noonan (Eds.), Partial Least Squares Path Modeling: Basic Concepts, Methodological Issues and Applications (pp. 1–40). *Springer*. DOI: https://doi.org/10.1007/978-3-319-64069-3_1 .